

RESPONSE TO OFFICE ACTION
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REMARKS

This response is intended as a full and complete response to the Office Action dated April 23, 2003. In view of the amendments and the following discussion, the Applicants believe that all claims are in allowable form.

SPECIFICATION

The Applicants have corrected clerical errors in paragraphs [0005] and [0021]. Specifically, in paragraph [0005], line 9, the word "a" has been deleted after the word "etching" and, in paragraphs [0021], line 8, the word "silicon" has been replaced with words "hafnium-oxide". The Applicants believe that no new matter has been entered.

CLAIMS 18-34

The Applicants have cancelled claims 18-34 without prejudice. The Applicants reserve the right to file divisional applications to prosecute the non-elected subject matter.

CLAIM REJECTIONS

A. 35 U.S.C. §112 Claims 15-16

The Examiner rejected claims 15-16 as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicants regard as the invention. Specifically, the Examiner stated that in claims 15-16, line 2, the limitation "said hafnium-oxide" lacks antecedent basis. In response, the Applicants have amended claims 15-16 to recite the limitation "said dielectric layer....wherein said dielectric layer is HfO_2 ".

Thus, the Applicants submit that claims 15-16, as amended, fully satisfy the requirements of 35 U.S.C. §112. Accordingly, the Applicants respectfully request the rejection to claims 15-16 be withdrawn.

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B. 35 U.S.C. §102(b) Claims 1, 2, 4, and 7

Claims 1, 2, 4, and 7 stand rejected as being anticipated by United States Patent Application Publication No. US 2001/0055852 A1, published Dec. 27, 2001, to Moise et al. (hereinafter referred to as "Moise"). In response, the Applicants have amended claim 1 to more clearly recite aspects of the invention.

Independent claim 1, as amended, recites limitations not taught, shown or suggested by Moise. Moise teaches to etch PZT 608 using Cl₂, O₂, CF₄, and Ar (paragraphs [0159] and [0167]), or etch PZT and SBT using Cl₂ and O₂ (paragraph [0173]). However, Moise does not teach, show or suggest a method of plasma etching a layer of dielectric material having a dielectric constant that is greater than 4 by exposing the dielectric layer to a plasma comprising carbon monoxide and a halogen containing gas, as recited by claim 1, as amended.

Thus, the Applicants submit that independent claim 1 and claims 2, 4, and 7 that depend therefrom are patentable over Moise. Accordingly, the Applicants respectfully request the rejection to claims 1, 2, 4 and 7 be withdrawn.

C. 35 U.S.C. §102(b) Claims 1, 2, 4, and 7

Claims 1, 2, 4, and 7 stand rejected as being anticipated by United States Patent Application Publication No. US 2002/0076936 A1, published Jun. 20, 2002, to Iguchi. In response, the Applicants have amended claim 1 to more clearly recite aspects of the invention.

Independent claim 1, as amended, recites limitations not taught, shown or suggested by Iguchi. Iguchi teaches etching a PZT or BST, PLT, PLZT, and SBT film 38A using Cl₂ and O₂ (paragraphs [0153] and [0186]). However, Iguchi does not teach, show or suggest a method of plasma etching a layer of dielectric material having a dielectric constant that is greater than 4 by exposing the dielectric layer to a plasma comprising carbon monoxide and a halogen containing gas, as recited by claim 1, as amended.

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Thus, the Applicants submit that independent claim 1 and claims 2, 4, and 7 that depend therefrom are patentable over Iguchi. Accordingly, the Applicants respectfully request the rejection to claims 1, 2, 4 and 7 be withdrawn.

D. 35 U.S.C. §103(a) Claim 5, 6, 8-14

Claims 5, 6, 8-14 stand rejected as being unpatentable over Moise. In response, the Applicants have amended claim 1, from which claims 6 and 8-14 depend, to more clearly recite aspects of the invention. Claim 5 has been cancelled without prejudice. Claim 6 has been amended to be consistent with claim 1, as amended.

Independent claim 1, as amended, recites limitations not taught, shown or suggested by Moise. The teachings of Moise have been discussed above in Section B. Furthermore, the table on page 6, paragraph [0160] that summarizes "various convenient gases categorized according to function and which may be used as replacements or additives" lacks a teaching or suggestion of Applicant's invention. More specifically, Moise does not teach, show or suggest a method of plasma etching a layer of dielectric material having a dielectric constant that is greater than 4 by exposing the dielectric layer to a plasma comprising carbon monoxide and a halogen containing gas, as recited by claim 1, as amended.

Thus, the Applicants submit that independent claim 1, as amended, is patentable over Moise. Claims 6 and 8-14 depend, either directly or indirectly, from claim 1 and recite additional features therefor, are also patentable over Moise. Accordingly, the Applicants respectfully request the rejection to claims 6 and 8-14 be withdrawn.

ALLOWED CLAIMS

The Applicants thank the Examiner for his comments regarding the allowability of claim 17.

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CONCLUSION

Thus, the Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

July 22, 2003



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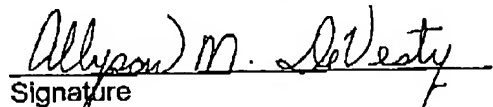
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Please continue to send all correspondence to:
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